

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference TS 9534 PCT	<b>FOR FURTHER ACTION</b> See Form PCT/PEA/416	
International application No. PCT/EP2004/052679	International filing date (day/month/year) 27.10.2004	Priority date (day/month/year) 29.10.2003
International Patent Classification (IPC) or national classification and IPC C10G2/00, B65D90/44, F25J3/02, F25J3/04		
Applicant SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (Indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand  05.08.2005	Date of completion of this report  28.09.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Gilliquet, J-N  Telephone No. +31 70 340- 	

**INTERNATIONAL PRELIMINARY REPORT  
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International application No.  
PCT/EP2004/052679

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-9 as originally filed

**Claims, Numbers**

1-7 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-7
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**Re Item V.**

1 The following documents are referred to in this communication:

D1 : US 2002/128332 A1 (BUETZOW MARCH R ET AL) 12 September 2002  
(2002-09-12)

D2 : DE 21 48 326 A (KONGSBERG VAPENFAB AS) 6 April 1972 (1972-04-06)

2 INDEPENDENT CLAIM 1

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 1 does not involve an inventive step in the sense of Article 33(3)PCT.

2.1.1 Document D1, which is considered to represent the most relevant state of the art to the subject matter of claim 1, discloses a process to transport a hydrocarbon, said process comprising:

- prepare a mixture of carbon monoxide and hydrogen from a carbonaceous source
- use said mixture of carbon monoxide and hydrogen to prepare a hydrocarbon product
- load the hydrocarbon product in a ship (See claims 1 and 12 of D1).

2.1.2 The subject-matter of independent claim 1 differs from the disclosure of D1 in that oxygen and nitrogen are prepared by air separation, oxygen is used in the preparation of CO and H<sub>2</sub> and that the hydrocarbon product is transported by ship under nitrogen atmosphere.

2.1.3 In the absence of comparative test results, the technical effect of these distinguishing features is the provision of an alternative transportation means for the hydrocarbon product.

2.1.4 The problem to be solved by the present invention may therefore be regarded as how to transport a hydrocarbon product.

2.1.5 Separation of air into nitrogen and oxygen is well-known in the art (See p. 2

last § of present description). Transportation of hydrocarbons per ship under an inert gas atmosphere is known from document D2 (See p.2 §2 and p.5 last §). The skilled person would therefore regard it as a normal option to include these features in the process described in document D1 in order to solve the problem posed.

- 2.1.6 Therefore the solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT).

**3 DEPENDENT CLAIMS 2-7**

- 3.1 The subject-matter of the dependent claim 7 of the present application is disclosed in document D2 (see § 2 of p.2), so that the skilled person would regard it as a normal option to include it in the process described in the present application in order to solve the problem posed. Therefore it does not involve an inventive step and does not satisfy the criterion set forth in Article 33(2) and (3) PCT.
- 3.2 From the text of the description of the present application, the subject-matter of dependent claims 3-6 does not contribute to solving the technical problem posed in the application. Therefore it does not involve an inventive step in the sense of Article 33(2) and (3) PCT.

**Re Item VII.**

- 1 Claim 2 is not supported by the description as required by Article 6 PCT. Moreover, it refers to a step (l) that is not existent in the claim it refers to (claim 1).
- 2 The words "wherein the ship is obtained by", at the end of point (c) of present claim 1 are not clear, as a ship can not be obtained by loading a product in it.
- 3 The unit psig expressed on page 5 is not additionally expressed in terms of the units stipulated by Rule 10.1/(a)/and/(b) PCT.

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(SEPARATE SHEET)**

International application No.

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